The management of dental problems presenting to an accident and emergency department

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Summary

Patients with dental diagnoses, not necessarily traumatic, often present to accident and emergency departments and general medical practitioners. Few doctors have received much, if any, education in the management of these patients. A 6 month prospective study revealed 107 patients (0.3% of new attenders) attending the accident and emergency department of Glasgow Royal Infirmary. Only 19 of these had suffered trauma. Medical staff in the department were only rarely able to make any diagnosis, and management of these patients took place on an empirical, symptomatic basis. Management could be improved by better education of medical students and doctors. Use of an algorithm may be appropriate.

Introduction

It is a feature of the dental undergraduate course that a considerable period of time is spent studying medicine and surgery, but most medical students receive no formal dental education. Many doctors work for a period in an accident and emergency department, and a large proportion proceed to general practice. All doctors working in these specialties will be exposed to patients whose primary problem is of dental origin.

Middle grade, and senior accident and emergency staff receive many requests from more junior staff for advice in managing these patients, but we have been unable to find reports on the quality of care afforded to patients with dental problems in the accident and emergency setting. Further, little dental education is possible in the regular senior house officer in-service training sessions, due to the limited time available, and the wide range of subjects to be covered. We set out to review the presentations and management of dental problems to the accident and emergency department of Glasgow Royal Infirmary.

Method

Over a 6 month period a questionnaire was completed, by the attending doctor, for all patients presenting to the accident and emergency department at Glasgow Royal Infirmary with problems of dental origin. Patients who had suffered facial fractures were excluded, because they were routinely referred to the maxillo-facial surgeons. The patients' registration details, prior receipt of dental care, their symptoms and subsequent clinical management, by the accident and emergency doctor, were noted. Disposal of the patient was also recorded. Subsequently, all the case records were reviewed by one author (AB) to provide an assessment, by a dental specialist, of the patients' management by the accident and emergency staff.

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Results

Over the 6 month study period 107 dental patients attended on 109 occasions. The age distribution of the patients is shown in Table 1. Most patients attended at the week-end (49 of 107 patients), with a smaller peak at the start of the week. The majority of attendances (67 of 107) occurred outside normal surgery hours.

Of all patients included in the study 79% had seen their own general dental practitioner within the previous year. Forty-eight (44%) of patients had done so within the previous week, and a further 38 within the previous year.

Nineteen (17.4%) patients had suffered dental trauma. The remaining 90 patients (82.6%) presented with a non-traumatic dental problem. These two groups have been analysed separately.

Of the 19 trauma patients 13 had injuries affecting their dentition only. Five had associated soft tissue facial injuries, and one had a minor head injury. The retrospective diagnoses are shown in Table 2. Four patients tried to attend their general dental practitioner, two successfully; 15 presented to the accident and emergency department *de novo*. Two patients were admitted to hospital for treatment. A further four patients received oral analgesia, but 13 patients received no specific treatment in the accident and emergency department. Nine patients were referred on to their own dentist, four to Glasgow Dental Hospital, and three were attended to by the maxillo-facial surgeons.

In the non-traumatic group, very few actual diagnoses were made by the accident and emergency senior house officers. Most treatment was related to the presenting symptoms and signs. These are

Table 1. Age distribution (all patients). Mean age=24.2 years

Age range	*No. of patients*
<10	11
10-19	16
20-29	54
30-39	17
40-49	7
50+	3

Table 2. Diagnostic groups

Patients		*Example retrospective diagnosis*
Dental		
Pain in tooth	50	Ac pulpitis pericoronitis
Pain in socket	18	Dry socket post extraction
Post extraction haemorrhage	10	Primary or secondary
Swelling	3	
Trauma (retrospective diagnosis)		
Fractured tooth	12	
Mobile or subluxed	5	
Other	2	

Table 3. Antibiotics prescribed

Antibiotic	*No. of prescriptions*
Penicillin V	12
Penicillin V+metronidazole	6
Ampicillin	4
Erythromycin	3
Erythromycin+metronidazole	2
Amoxycillin	2
Flucloxacillin	1
Flucloxacillin+metronidazole	1
Flucloxacillin+amoxycillin	1

listed in Table 2, with examples of the retrospective diagnoses as derived from the case notes (by AB). Thirty patients had tried to see their own dentist, eight successfully. The remaining 60 patients had made no attempt to see their own dentist.

Oral analgesia was prescribed in 62 cases, and antibiotics in 33 (Table 3). Other treatments given included Oil of Cloves (7 patients), and various methods of arresting haemorrhage from sockets (6 adrenaline soaks, 2 sutured and 2 packed with oxycel).

Fifty patients were referred to their own dentist, 34 were referred to the Glasgow Dental Hospital and four to the maxillo-facial surgeons.

Discussion

This study shows that surprising numbers of patients with dental problems present to our accident and emergency department. It would appear that most of these patients could be equally or better managed by their general dental practitioners. It is inevitable that those patients who have suffered trauma will present to an accident and emergency department, but many do not require urgent treatment there. One technique which should be taught to all staff in the department is the re-implantation of teeth, which should be done with minimal delay[1-3].

The age characteristics of our patients were unremarkable (Table 1). It was surprising to find that many patients presented on weekdays during normal dental surgery hours especially at the beginning of the week. This might reflect patients perceptions of the dentist's availability for emergency treatment, or problems with the dental appointment system. It is of concern that 22 (24%) of dental patients had apparently attempted to attend their own general dental practitioner unsuccessfully. The primary responsibility for emergency dental care rests with the patient's own general dental practitioner, with an additional week-end service at the dental hospital. The oral surgery service does not cover this area, and problems may therefore arise for the increasing number of unregistered patients when they require dental care.

It would appear that most of our patients' clinical outcome was not compromised unduly by the lack of dental expertise available in the department, despite the rarity with which an actual diagnosis was made. Most patients were treated empirically; whilst overall their management was adequate it was felt by the authors to be sub-optimal, but safe, for the period until appropriate dental care could be obtained. However, two patients with facial swelling secondary to dental abscesses were inappropriately treated with antibiotics alone, and not referred for an immediate dental opinion (re surgical drainage). Another patient with a dental abscess presenting as a sinus on the chin was eventually diagnosed some months later after referral to the oral surgery department from the dermatology clinic. However, where infection was suspected the choice of antibiotics prescribed were considered to be adequate, though not always optimal (Table 3).

It was encouraging to find that all but five patients were referred, either at the time of their attendance, or by recommendation, to a source of specialist dental care. Almost two-thirds were advised to attend their general dental practitioner. This high referral rate probably suggests a degree of uncertainty in the mind of the attending physician.

We therefore feel that there is room for improvement in the management of these patients. First, it is necessary to improve public awareness of the availability of general dental practitioners for emergency treatment, as contractually required since October 1990, as nearly 80% of our patients would now qualify for such emergency attention.

The management of patients who present to medical practitioners, both in the accident and emergency department, and to community services, should be improved in several ways.

Better undergraduate and postgraduate education on dental matters is required. That most of our patients received empirical treatment on the basis of their symptoms, without a firm diagnosis, suggests that treatment protocols could be based on symptoms alone. Whilst this is perhaps not ideal, it would appear to be safe if appropriate dental follow-up arrangements are made. As a result of this study we have devised a clinical algorithm, based on symptoms, which we have implemented in our department, and hope to be able to report its validation in the future.

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